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ABSTRACT

Reported in the survey (1968) were effects of the regional Instructional Materials Center (IMC) consultant among special education (SE) teacher populations in Indiana, Ohio, and Michigan. Some of the teacher background information compiled from 222 completed questionnaires indicated that over half taught slow learners, had taught handicapped children 8 years or less, were certified in SE, and taught children with an age span of 4 to 6 years. Also, although 61% knew of budgeted amounts for supplementary materials, 22% had little or no part in selection or purchase, and 51% made most of their own materials. Some of the data on the IMC and consultant effects showed the following: that 86% were aware of the IMC, that 31% to 73% who knew about the IMC were unaware of the informational services offered, that of 14% of teachers with consultant contact, half found the contact very helpful, and that 50% could not tell if the IMC was effective, although 3% thought it was highly effective. Of twelve types of materials listed, film loops and single concept films were least familiar, and language reading, or mathematics materials were most familiar (many materials were unfamiliar) to teachers. Teachers who made their own materials tended to agree that commercial materials were more costly and less challenging to students than teacher made materials. (MC)

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# SURVEY OF SPECIAL EDUCATION TEACHER POPULATION OF INDIANA, MICHIGAN AND OHIO WITH SPECIAL REFERENCE TO CONSULTANT EFFECTIVENESS

Monograph Series No. 5

EXAMINATION COPY

Cooperating with State Departments of Education – Michigan-Indiana-Ohio
*Member, Instructional Materials Network for Handicapped Children and Youth
U.S. Office of Education – Bureau of Education for the Handicapped

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# SURVEY OF SPECIAL EDUCATION TEACHER POPULATION OF INDIANA, MICHIGAN AND OHIO WITH SPECIAL REFERENCE TO CONSULTANT EFFECTIVENESS

**Monograph Series No. 5**

**Project Supervisor – Rosaria A. Bulgarella**

**Principal Investigator – Lois Q. Williams**

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## Objectives of the Survey

The major objective of this survey is the evaluation of the role of the consultant in the context of the functions of the Regional Center. The design of the questionnaire for the survey was determined by the need to detect whatever effects among the special education teacher populations in Indiana, Ohio and Michigan are attributable to consultant activity in those states. The study of consultant effectiveness must be done against the background of other IMC services sharing the same general objective, the dissemination of information about instructional materials for the handicapped child.

The assessment of the effectiveness of the IMC consultant is subject to factors such as newness, the distance of the teacher population in the consultant's state from the Regional Center, and the ratio of number of teachers per consultant. At the time the data was gathered for this survey, the Center mailing lists contained names of approximately 8700 special education teachers. The consultant-teacher ratio in Michigan was approximately 4130 to one, in Ohio, 3330 to one, and in Indiana, 1240 to one.

The factor of duration of consultant activity (or consultant newness) was different for each state. At the time of the survey, Michigan teachers in special education had had one instructional materials consultant available to them for 23 months, while Indiana teachers had had a consultant available to them for a nine month period, and Ohio teachers had had a consultant available to them for a seven month period.

The differences in consultants and their teacher populations present a challenge in the interpretation of evaluative efforts. Our mailed questionnaire was designed to get a clear idea of the respondent's background and his role in the selection of materials for classroom use as well as his familiarity with the Regional IMC Center, the consultant, and other IMC services.

A questionnaire package was designed to assess the following specific objectives:

1. Teachers' awareness of the consultant
2. Knowledge of how to contact the consultant
3. Opinion of the helpfulness of the consultant
4. Frequency of contact with the consultant
5. Awareness of the Regional IMC
6. Knowledge of the purposes and facilities of the IMC
7. Opinion of the effectiveness of the IMC and the helpfulness of specific sources of information such as IMC printed materials
8. Frequency of use of IMC services such as the library
9. Knowledge of twelve types of instructional materials that are frequently demonstrated by consultants
10. Attitude of teachers toward commercial and self-made materials
11. Demographic characteristics of teachers

Since the consultant-teacher ratios were the most comparable for Ohio and Michigan, special attention to differences in awareness of IMC consultants and IMC services was planned for these two states. It was expected that if consultant activity had been effective in reaching the individual teacher, awareness should be greater in Michigan where the consultant had been active for a longer period.

## Methodology

Sampling. One objective of the sampling method used was to obtain response from all geographical sections of each state. Since the IMC mailing lists were arranged according to the zip code system of the U.S. Post

Office, taking every 36th name in the Michigan list insured that the sample would include response from widely separated sections of the state, from teachers in every specialty area, and from all urban areas in proportion to the number of special education teachers in each. Similar systematic samples were taken from the Indiana and Ohio lists. Equal numbers of questionnaires (150) were sent to each state in order to obtain sufficient numbers of respondents in the subcategories for which analyses were planned.

Follow-up procedure. Of the total of 222 complete questionnaires returned, 143 were returned as a result of the initial mailing in May, 1968. The first reminder to nonrespondents was a letter mailed 30 days after the initial mailing. Seventy-nine questionnaires were returned as a result of the second follow-up notice, a postcard with an attached pre-addressed return postcard to enable those who had not returned questionnaires to request that a second form be sent. The questionnaires returned more than 90 days after the initial mailing were discarded.

The mailing package. All those sampled received a five-page questionnaire, an IBM answer sheet to facilitate the conversion of data to punched cards, a cover letter signed by the Director of the Center, and a stamped manila envelope addressed to the Center for the return of the answer sheet.

The questionnaire consisted of a total of 49 items (a copy is contained in Appendix). The first five items requested information about teaching specialty area, number of years in teaching, years teaching the handicapped, and training in special education.[1] Six items inquiring about the purchasing and ordering done by the teacher were followed by two items

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[1] These and several subsequent questions were adapted from the pilot evaluation of Special Education Instructional Materials Centers by the American Institutes for Research.

related to the amount of materials used by the teacher which were self-made and the amount used which had been purchased ready-made.

Ten items pertaining directly to the objectives of the questionnaire followed the background items. These were followed by the Knowledge of Materials subtest, 14 items describing some of the more technical instructional materials that are relatively new to teachers and are frequently included in instructional materials displays. Respondents were asked to indicate whether they had merely heard about the item described, examined it, or used it. Since consultants often displayed or demonstrated these items to teachers, the degree of the respondent's knowledge of these items was expected to relate to her contact with the consultant and/or IMC displays.

Attached to the questionnaire was a short test to measure attitude toward teacher-made versus commercially-made materials.

The last page of the questionnaire was provided to give space for respondents' comments.

Analysis of data. All data was submitted to computer analysis using a program for the analysis of contingency tables furnished by the Computer Institute for Social Science Research of Michigan State University. The computer facility of the University and another computer located in the College of Education were utilized.

All statements in this report concerning the response to the questions of major interest (Questions 14-23) are made in accordance with the results of a test of significance.[1] A significantly disproportionate distribution of responses in a table is designated by an asterisk (*) for the 95% level

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[1] Chi-square test of homogeneity.

of confidence and two asterisks (**) for the 99% level, indicating that with repeated samples of the same size from the same population of teachers, only 5 times out of 100 or less could such a disproportionate distribution be expected to have occurred by chance, if the proportions giving the same response in each state were in fact equal.

Sample size restricts the interpretation of percentages. The reader should regard any unweighted percentage appearing in Tables 9 through 13 and 15 through 19 as an estimate at the middle of a range of percentages, called the confidence interval, to be computed as follows:

| | If percentage tabled is: | Add and subtract to percentage tabled: |
|---|---|---|
| Indiana: | 5 or 95% | 4% |
| | 10 or 90% | 5% |
| | 20 or 80% | 7% |
| | 30 or 70% | 8% |
| | 40 or 60% | 9% |
| | 50% | 9% |
| Ohio: | 5 or 95% | 5% |
| | 10 or 90% | 6% |
| | 20 or 80% | 8% |
| | 30 or 70% | 10% |
| | 40 or 60% | 10% |
| | 50% | 11% |
| Michigan: | 5 or 95% | 4% |
| | 10 or 90% | 6% |
| | 20 or 80% | 8% |
| | 30 or 70% | 9% |
| | 40 or 60% | 9% |
| | 50% | 10% |

Such computations will yield 90% confidence intervals for each percentage. We would expect 90 out of 100 similar samples to yield values within each confidence interval. (The reader who wishes to utilize the weighted percentages found in the right hand column of these tables will need to follow a more complicated procedure to find the confidence interval. This procedure is outlined in Appendix A.)

It should be noted that not all of the 222 respondents supplied answers to all questions, so that the number on which a table is based varies from 218 to 222.

All percentages based on the total sample are weighted estimates. The weighting of category percentages for each state adjusts for disproportionate sampling in each state due to the differences in number of special education teachers in each state. The weight for Indiana responses was 1237/8699 (.142); for Ohio responses 3331/8699 (.383); and for Michigan responses 4131/8699 (.475).

## Results

Of the 450 questionnaires mailed, 222 were returned by respondents, a return of 49.3%. The return rate was different for each state. Of the 150 questionnaires sent to each state, Indiana returned a total of 86 (57%), Ohio 61 (41%) and Michigan 75 (50%). There was also a difference in response according to date of return (early returns were those received prior to July 1, 1968). As Table 1 shows, Michigan responses

Table 1. Comparison of early and late return of questionnaires from the three states, in percentages of each state total (frequences in parentheses). (**)

| State | Early | Late |
|---|---|---|
| Indiana | 53% (46) | 47% (40) |
| Ohio | 59% (36) | 41% (25) |
| Michigan | 81% (61) | 19% (14) |

tended to be returned earlier than responses from Indiana and Ohio.

All items of major interest (Items 14 through 23) were compared on both variables, date of return and state of origin, to determine if the differential early or late response was related to awareness and opinion of IMC functions within each state. In general, the late response groups from Ohio and Indiana indicated less awareness of IMC local displays and in-service meetings, and less contact with the consultants, than did the early response groups from those states. The preponderance of Ohio and Indiana responses in the late returns did not appear to reflect the effects of consultant activity occurring in the interim. It is safe to conclude that the combination of the late and early groups did not decrease the likelihood of detecting a Michigan-Ohio difference due to differences in periods of consultant activity.

There were no differences according to date of return and the response to the knowledge of materials subtest, the attitude scale, or background characteristics (Questions 1 through 13 plus sex and rural-urban area).

Characteristics of the responding teachers: Specialty area taught. In each state, over half the respondents were teachers of the slow or retarded learner. For the most part, the sampling of teachers from the various specialty areas was fairly close to the proportion of teachers in the specialty areas as found in the mailing lists.

The distribution of respondents in each category in each state is given in Table 2 with the percentages of teachers in each category in the mailing lists. It appears that the method of sampling was successful in obtaining respondents from all specialty areas but not in all states where the number of teachers in that specialty was extremely small. The apparent

over-sampling of teachers in the area of hearing disability in the state of Ohio may be attributed to the increase of teachers hired in this area in 1968.

All background characteristic questions are discussed in terms of weighted percentage estimates, since there were very small differences between states for these items.

Years in teaching. Approximately 14 of the teachers responding had been teaching for one year, 15 for two or three years, (29% for three years or less) and 11 for four or five years. Fifty-seven percent of the respondents had taught for eight years or less. At the other end of the range of years of teaching, 17% of respondents had been teaching for 19 years or more.

Years teaching the handicapped. A somewhat different picture is derived from this variable. Nearly half of the respondents (49%) had taught the handicapped for three years or less, 81% for eight years or less, and only 7% for 19 years or more.

Training in special education. Eighty-two percent of respondents were certified in special education, and 55% of this group had had extra coursework beyond that done for the certificate. Another 11% of the sample were working toward certification. Three percent had had one or more special education courses only, and 4% had no special education training.

Range of ages of children taught. One problem faced by the special education teacher is the need for methods and materials suitable for children of a wider age range than are found in the regular classroom. In the sample, about half (53%) of respondents were teaching children with ages ranging over a four to six year span. Twenty-six percent reported that they

Table 2. Percentage of teachers in specialty area categories according to IMC mailing lists (1968) with the percentage of respondents in each category in each state (Frequencies in parentheses).

| | Indiana | | Ohio | | Michigan | |
|---|---|---|---|---|---|---|
| | Listed: N=1237 | Responding: N=86 | Listed: N=3331 | Responding: N=61 | Listed: N=4131 | Responding: N=75 |
| Trainable mental retardation | - | 7% ( 6) | - | 0 | - | 5% ( 4) |
| Educable mental retardation | - | 49% (42) | - | 31% (19) | - | 51% (38) |
| Both trainable and educable retardation | - | 0 | - | 0 | - | 3% ( 2) |
| Slow learner | - | 2% ( 2) | - | 23% (14) | - | 1% ( 1) |
| All above combined | 43% | 58% (50) | 62% | 54% (33) | 53% | 60% (45) |
| Physical handicap | 2% | 4% ( 3) | 5% | 3% ( 2) | 4% | 3% ( 2) |
| Speech handicap | 21% | 22% (19) | 17% | 16% (10) | 20% | 20% (15) |
| Hearing disability | 1% | 2% ( 2) | 6% | 16% (10) | 5% | 3% ( 2) |
| Visual handicap | 1% | 5% ( 4) | 2% | 5% ( 3) | 3% | 3% ( 2) |
| Learning disability | 1% | 1% ( 1) | 0 | 5% ( 3) | 4% | 0 |
| Emotional disturbance | 1% | 4% ( 3) | 4% | 0 | 4% | 8% ( 6) |
| Remedial reading | - | 1% ( 1) | - | 0 | - | 0 |
| Multiple handicap | - | 2% ( 2) | - | 0 | - | 1% ( 1) |
| Other | 0 | 1% ( 1) | 4% | 0 | 1% | 3% ( 2) |
| Unclassified | 30% | 0 | 0 | 0 | 6% | 0 |

were teaching groups with ages spanning seven to nine years. The respondents in the specialty of speech handicap reported the widest range of ages taught of any of the specialty areas, some teachers in this group teaching children with ages ranging over a 14-year span.

Minimum age of children in groups being taught by individual respondents. Most teachers were teaching groups where the minimum age was seven, and almost as many were teaching groups where the minimum age was five or six. About half (52%) of the sample taught groups in which the minimum age was nine or under, as shown in Table 3.

Table 3. Minimum age of children in groups taught by respondents, giving weighted percentage for total sample for each year of age.

| Minimum year of age of children taught | Percentage | Minimum year of age of children taught | Percentage |
|---|---|---|---|
| 3 | 1% | 10 | 8% |
| 4 | 0 | 11 | 7% |
| 5 | 12% | 12 | 8% |
| 6 | 13% | 13 | 7% |
| 7 | 13% | 14 | 4% |
| 8 | 6% | 15 | 10% |
| 9 | 8% | 16 | 4% |

Maximum age of children in groups being taught by individual respondents. The modal years of the distribution of maximum age of children taught was 12 years (18% of all respondents fit this category). Fifty-five percent of the sample were teaching groups with a maximum age of 13 to 19 years. The distribution of maximum age is shown in Table 4.

Table 4. Maximum age of children in groups being taught by respondents, giving weighted percentage for total sample for each year of child's age.

| Years of age | Percent | Years of age | Percent | Years of age | Percent |
|---|---|---|---|---|---|
| 4 | 1% | 10 | 5% | 16 | 9% |
| 5 | 0 | 11 | 15% | 17 | 5% |
| 6 | 0 | 12 | 18% | 18 | 8% |
| 7 | 2% | 13 | 9% | 19 | 7% |
| 8 | 1% | 14 | 7% | | |
| 9 | 3% | 15 | 10% | | |

Sex of respondent: rural-urban area. Each respondent was classified according to sex and the rural-urban dichotomy. A teacher was classified as urban if her school address was in one of the standard metropolitan areas defined by the Bureau of the Census. These two attributes did not differentiate among responses to any of the items which were selected for trial analysis.

The purchasing of materials (Questions 6, 7, 8 and 9; 10 and 11; 12 and 13). This series of background items was designed to reveal a possible source of lack of knowledge or indifference due to a respondents having little part in the purchase or selection of materials to be used in the classroom. Teachers who do not have the option to purchase materials of supplementary and/or regular materials would be expected to have less interest in materials and in contacts with persons who can inform them about materials.

The distribution of response to Questions 6, 7, 8, and 9 is shown in Table 5. There were no differences among teacher specialty areas for

Questions 6, 7, 8 and 9, nor did these questions relate to the way in which teachers responded to other parts of the questionnaire. Teachers made many

Table 5. Distribution of response to Questions 6, 7, 8 and 9, giving weighted percentage for total sample.

| | True | False | Uncertain |
|---|---|---|---|
| 6. There is a budgeted amount set aside for me to order or purchase materials of a supplementary nature. | 61% | 30% | 9% |
| 7. I regularly purchase or order supplementary materials with the amount set aside. | 53% | 33% | 14% |
| 8. There is a budgeted amount set aside for me to order or purchase materials of other than a supplementary nature. | 50% | 36% | 14% |
| 9. I regularly purchase or order materials that are other than supplementary with the amount set aside. | 36% | 49% | 15% |

comments which indicated that they were not sure what was meant by the term "budgeted amount" and whether it applied to them. Several sources that teachers were sure of were: donations, "a treasury of funds," "Government Funds," "requisition." As one teacher put it, "The term 'budgeted' is confusing. I have a fund which I may spend as I wish and when I wish." Another stated, "My school district has no 'budgeted amount' set aside for my use, but I get everything I need and ask for." Still another respondent described his problem, "A certain amount is always budgeted, but it seems that somehow it is gone when one turns in his requests."

Purchasing as a member of a committee. Response to Question 10 indicated that the specialty areas differed in respect to whether a teacher's orders or purchases were usually done as a member of a department or committee rather than as an individual as shown in Table 6. Looking at the two largest specialties, more teachers in the area of speech disability and fewer teachers of the educable mentally retarded reported that they usually made their purchases as members of a department or a committee.

It was also found that in Ohio there is a greater tendency than in the other two states for teachers to make purchases as members of a department or committee (see Table 7). Where only 25% of Indiana teachers and 34% of Michigan teachers make their purchases of materials as members of a department or committee, 52% of Ohio teachers did so.

Table 6. Purchasing done as a member of a department or committee, showing weighted percentage for total sample by specialty category. (*)

| | True | False | Uncertain |
|---|---|---|---|
| Speech disability | 51% | 47% | 2% |
| Educable mental retardation | 24% | 66% | 10% |
| All others combined | 41% | 54% | 5% |

Additional analyses showed that the response by the teacher indicating that purchasing was done as a member of a department or committee (Question 10) had no relationship to the teacher's responses concerning awareness of

or opinions about IMC consultants, IMC services and activities, or the IMC itself (Questions 14 through 23).

Table 7. Percentage of respondents in each state agreeing and disagreeing with the statement, "My purchases are usually done as a member of a department or committee, rather than as an individual." (Frequencies in parentheses). (**)

| | Indiana | Ohio | Michigan | Weighted percentage for total sample |
|---|---|---|---|---|
| Agree | 25% (21) | 52% (31) | 34% (25) | 40% |
| Disagree | 65% (55) | 47% (28) | 61% (45) | 56% |
| Uncertain | 10% ( 9) | 2% ( 1) | 5% ( 4) | 4% |

Purchasing as part of an established curriculum development program. The weighted average of the total sample indicated that approximately 45% of teachers agreed with the statement that their purchasing and ordering of materials in the past year was done as part of an established curriculum development program, while 39% indicated that this statement was false for them, leaving 16% who were uncertain.

Amount of materials that were teacher-made. The last two background questions sought to describe the amount of self-made materials teachers used and the amount of the materials teachers used that they had had a part in selecting, ordering or purchasing. Table 8 shows the results of Questions 12.

The proportion of materials which teachers reported making for use in their classrooms seems high, with 51% of teachers making from half to nearly all of their materials.

Table 8. Percentage of materials used in the past year which were self-made giving weighted percentage for the total sample. (N=221)

| | Self-made |
|---|---|
| None | 3% |
| A very small proportion | 14% |
| Some, but less than half | 32% |
| About half | 22% |
| More than half | 16% |
| Nearly all or all | 13% |

Amount of materials which were ordered, selected, or purchased by the teacher. In response to Question 13, 22% of the sample indicated that they had little or no part in selecting, ordering or purchasing the materials used. The complete distribution of responses is shown in Table 9.

Table 9. Percentage of materials used in the past year which the respondent had ordered, selected or purchased, giving weighted percentages for the total sample.

| | Ready-made |
|---|---|
| None | 7% |
| A very small proportion | 15% |
| Some, but less than half | 10% |
| About half | 12% |
| More than half | 11% |
| Nearly all or all | 45% |

A "score" representing the total number of "true" responses for Questions 6, 7, 8 and 9 was computed for each respondent in order to discover relationships between ability to purchase and amount of purchasing

done and responses to the questions of principal interest (Questions 14 through 23), including six of the background questions as well. Only one of the 15 analyses showed response patterns that were related to scores for these four questions taken as a unit -- respondents who reported ordering, selecting or purchasing a larger proportion of the materials they used in response to Question 13 also gave more "true" responses to Questions 6, 7, 8 and 9, a hardly surprising finding. Apparently, the teacher's awareness and opinion of the IMC consultant or IMC facilities and services is not related to the teacher's participation in the ordering or the purchasing of materials.

In summary, only one of the background questions showed that there were characteristic differences between teachers from different states, Question 10 concerning whether purchasing was done as a member of a committee or as an individual. Since response to none of the questions of major interest was related to this factor, no background variable examined appeared to have affected the results in a way which might require special control or analysis. These results plus the results of an earlier survey of Michigan teachers also suggest that differences in background characteristics are greater between teacher specialty groups than between teachers grouped by state.

Awareness of, contact with, and ratings of IMC consultants and IMC services: the ten questions of major interest. Each question was tested for an overall disproportionate distribution of response, indicating a significantly varied response pattern across respondents when grouped by state. Five of the ten questions showed disproportionate responses in subcategories. The responses to these questions are presented in Tables 10, 11, 12, 13 and 14. The tables which did not meet this criterion of significance are Tables 16, 17, 18, 19, 20 and 21.

One specific significance test was made for each of the ten questions. We looked for a difference between Michigan and Ohio response to the response option which indicated that the respondent had not heard of the IMC, the IMC consultant, or the IMC service described in the question.

The Ohio-Michigan comparisons were made to answer the following question: Given a roughly comparable consultant-teacher ratio such as exists between Michigan and Ohio (but not between Michigan and Indiana), did the longer period of activity by the Michigan consultant bring about greater awareness of the IMC, the consultant and IMC services? It was found that only Question 19 (Table 12) yielded a significant difference between Michigan and Ohio in numbers who reported "unawareness." This finding is discussed in the text accompanying Table 12.

As seen in Table 10, response of Ohio teachers to Question 14 concerning the degree to which they were informed about their Regional IMC was low in the third response category, "Know something about IMC programs and/or facilities." When the respondents in the fourth category, who indicated knowing "almost all or all of IMC programs and facilities," are combined with those in the third category, the difference in response between state is not so extreme. Although the table shows significantly disproportionate response for states, a general conclusion about the source of the difference must be qualified by this fact.

For Question 17, the largest deviation from proportional response distribution was the 52% of Ohio teachers who had not visited or heard of the IMC library, as shown in Table 11.

For Question 20, a departure from proportional distribution was found for the small number of Ohio respondents who had heard of an IMC display in their locality but had not attended. By the same token, the proportion of

Table 10. Acquaintance with the programs and facilities of the regional IMC, giving the percentage of response in each state (frequencies in parentheses). (**)

| | Indiana | Ohio | Michigan | Weighted % for total sample |
|---|---|---|---|---|
| Have not heard about it | 15% (13) | 18% (11) | 11% ( 8) | 14% |
| Have heard about it, but do not know much about it | 50% (43) | 57% (35) | 45% (34) | 51% |
| Know something about its programs and/or facilities | 31% (27) | 15% ( 9) | 40% (30) | 29% |
| Know about all or almost all of its programs and facilities | 3% ( 3) | 10% ( 6) | 4% ( 3) | 6% |

Table 11. Visits to and rating of the regional IMC library, giving percentage or response in each state (frequencies in parentheses). (**)

| | Indiana | Ohio | Michigan | Weighted % for total sample |
|---|---|---|---|---|
| Have not visited or heard of library | 25% (21) | 52% (32) | 33% (25) | 40% |
| Have heard of library, but haven't visited it | 73% (62) | 41% (25) | 55% (41) | 52% |
| Visited the library and found it useful | 2% ( 2) | 5% ( 3) | 11% ( 8) | 7% |
| Visited the library and found it not useful | 0 | 2% ( 1) | 1% ( 1) | 1% |

Ohio respondents who were unaware of an IMC local display was large. This question produced a significant difference in numbers of Ohio and Michigan respondents aware of a local display. This difference appears to reflect the results of a project carried out in Michigan in 1967-68. Large displays of instructional materials assembled by the consultant were circulated to several locations in every intermediate district in lower Michigan.

A service conducted by IMC consultants, in-service training in the form of conferences, workshops, demonstrations, etc., the subject of Question 20, appeared to be rated differentially in Indiana, as shown in Table 13, where a relatively high proportion of Indiana teachers in the sample had

Table 12. Awareness and rating of displays of materials placed in the respondent's locality by the IMC, giving percentage of response in each state (frequencies in parentheses). (*)

| | Indiana | Ohio | Michigan | Weighted % for total sample |
|---|---|---|---|---|
| Not aware of one | 67% (58) | 88% (54) | 67% (49) | 75% |
| Aware of one but did not attend | 19% (16) | 2% ( 1) | 18% (13) | 12% |
| Found it to be very informative | 8% ( 7) | 2% ( 1) | 5% ( 4) | 4% |
| Found it to be moderately informative | 6% ( 5) | 8% ( 5) | 7% ( 5) | 7% |
| Found it to be a little informative | 0 | 0 | 3% ( 2) | 1% |

attended an in-service meeting and found it to be "very informative." (None of the respondents in any state used the option of response to indicate that an in-service meeting was merely "a little informative.")

Table 13. Awareness and rating of in-service training provided by the regional IMC, giving percentage of response in each state (frequencies in parentheses). (*)

| | Indiana | Ohio | Michigan | Weighted % for total sample |
|---|---|---|---|---|
| Not aware of any in past year | 60% (50) | 85% (52) | 73% (55) | 76% |
| Aware of one but have not attended | 14% (12) | 7% ( 4) | 13% (10) | 11% |
| Found it to be very informative | 19% (16) | 5% ( 3) | 8% ( 6) | 8% |
| Found it to be moderately informative | 6% ( 5) | 3% ( 2) | 5% ( 4) | 5% |

Table 14. Awareness of the question-answer service of the regional IMC, giving percentage of response in each state (frequencies in parentheses). (*)

| | Indiana | Ohio | Michigan | Weighted % in total sample |
|---|---|---|---|---|
| Have not heard about it | 36% (31) | 57% (34) | 50% (37) | 51% |
| Have heard about it but do not know anything about purpose | 27% (23) | 25% (15) | 34% (25) | 29% |
| Know something about its purpose | 29% (25) | 12% ( 7) | 11% ( 8) | 14% |
| Familiar with its purposes, uses and procedures | 7% ( 6) | 7% ( 4) | 5% ( 4) | 6% |

Awareness of the question-answer service (Question 23) also was not evenly distributed among the three sampled states, as shown in Table 14. In Indiana,

the 29% of teachers who indicated that they knew something about the purposes of the question-answer service was relatively large.

Comparison of the seven sources of information about the regional IMC. Thirty-nine separate analyses of which one is presented in this section were done to discover which of the seven sources of information were identifiable as more likely to have helped the teacher to know about a particular aspect of IMC functioning. These sources are listed in Table 15.

Table 15. Percentage of respondents who had heard about the IMC but had not heard about or seen each of seven sources of information about the IMC, giving weighted percentages for the total sample.

| | |
|---|---|
| IMC library | 31% |
| Newsletter or other printed material | 31% |
| An IMC convention display | 35% |
| The question-answer service | 43% |
| How to contact the consultant | 61% |
| Local display by the IMC | 72% |
| In-service workshop by IMC | 73% |

The percentages given in Table 15 reflect the significant relationships between awareness of the IMC and each of the seven sources of information. They are based on the number of responses indicating no knowledge or awareness in each of Questions 16, 17, and 19 through 23, from the group of 189 teachers who indicated that they had heard about the IMC or had knowledge about it. The unweighted percentages show that the number of respondents aware of the IMC but unaware of an IMC in-service meeting, a local display, or how to contact the consultant was greater than the number of respondents who had not seen IMC printed material, or were unaware of the IMC library, a convention display, or the question-answer service.

Among the teachers who had heard about the IMC, there is apparently less awareness of the consultant than any of the first four sources listed. The library as a resource center appears to have been the feature most frequently identified with the IMC. However, the IMC convention displays, the library service, and IMC printed materials are of approximately equal importance. In other words, the respondent who was aware of the IMC was likely to have knowledge of or contact with any one of these three aspects of IMC operations.

When state of origin and acquaintance with the regional IMC were considered jointly, only with respect to the question-answer service was the difference among states maintained when there was also a relationship between awareness of the IMC organization and a specific service of the IMC. The data which produced this relationship is shown in Table 16.

Table 16. Acquaintance with the question-answer service among the 187 respondents who indicated an awareness of the regional IMC, giving percent of response in each state (frequencies in parentheses). (*)

| | Indiana | Ohio | Michigan | Weighted % for total sample |
|---|---|---|---|---|
| Have not heard anything about the question-answer service | 26% (19) | 47% (23) | 46% (30) | 43% |
| Have heard about it but do not know much about it | 31% (22) | 31% (15) | 36% (24) | 34% |
| Know something about its purposes | 35% (25) | 14% ( 7) | 12% ( 8) | 16% |
| Am familiar with its purposes, uses and procedures | 8% ( 6) | 9% ( 4) | 6% ( 4) | 7% |

Among respondents with an awareness of the IMC, more Indiana respondents reported that they had some knowledge about the purposes of the question-answer service. This difference may be attributed to the varying degree of emphasis and attention placed on information about this service by each of the three consultants. It should be noted that the question-answer service was not in operation for much of the period in which the Michigan consultant alone was active.

Two questions dealt directly with the topic of the IMC consultant. The results of Question 16, presented in Table 17, indicate that contact with a consultant was limited to a minority of teachers. It is estimated that not more than 16% nor less than 10% of the special education teachers in the three-state region had had contact with a consultant as of the summer of 1968.

Table 17. Amount of contact with the consultant, giving percentage of response in each state (frequencies in parentheses). (Differences between states are nonsignificant.)

| | Indiana | Ohio | Michigan | Weighted % for total sample |
|---|---|---|---|---|
| Had no contact with and would not know how to contact the consultant | 52% (45) | 67% (41) | 71% (53) | 67% |
| Know how to contact the consultant but have not had contact | 27% (23) | 20% (12) | 17% (13) | 20% |
| One contact | 14% (12) | 10% ( 6) | 11% ( 8) | 10% |
| More than one contact | 7% ( 6) | 3% ( 2) | 1% ( 1) | 3% |

Question 18, which asked respondents to rate the consultant's helpfulness, showed that among the teachers who reported some contact with the consultant, 50% found the consultant "very helpful." Table 18 shows the distribution of response to this question. (State differences in each category are non-significant.)

Table 18. Ratings of helpfulness of the consultant giving percentage of response in each state (frequencies in parentheses). (Differences between states are nonsignificant).

| | Indiana | Ohio | Michigan | Weighted % for total sample |
|---|---|---|---|---|
| Have had no contact with consultant | 71% (60) | 87% (53) | 90% (66) | 86% |
| Consultant was very helpful or informative | 15% (13) | 8% ( 5) | 4% ( 3) | 7% |
| Consultant was somewhat helpful or informative | 8% ( 7) | 5% ( 3) | 4% ( 3) | 6% |
| Consultant was a little helpful or informative | 5% ( 4) | 0 | 1% ( 1) | 1% |
| Consultant was not helpful or informative | 1% ( 1) | 0 | 0 | 0 |

Question 21 asked about convention displays seen or heard of by the teachers. Differences between states were again nonsignificant across the categories of response for this question, as shown in Table 19. An estimated 50% of the sample had attended a convention in the previous year but did not recall an IMC display. Of the estimated 14% who had seen an IMC display, approximately equal proportions of respondents found it "very

informative" or "moderately informative." One percent of the total found the display only " a little informative."

Table 19. Awareness and ratings of IMC convention display provided by the consultant, giving percentage of response to each category in each state (frequencies in parentheses). (Differences between states are nonsignificant).

| | Indiana | Ohio | Michigan | Weighted % for total sample |
|---|---|---|---|---|
| Have not attended a teacher's convention in the past year | 25% (21) | 36% (22) | 39% (29) | 36% |
| Attended a convention but do not recall an IMC display | 53% (44) | 57% (35) | 43% (32) | 50% |
| Display was very informative | 8% ( 7) | 3% ( 2) | 9% ( 7) | 7% |
| Display was moderately informative | 10% ( 8) | 2% ( 1) | 9% ( 7) | 6% |
| Display was a little informative | 4% ( 3) | 2% ( 1) | 0 | 1% |

Question 22 (Table 20) asked about the IMC newsletter and other IMC printed materials. Although the newsletter had been mailed to Michigan special education teachers at their schools for two years, the proportion who recalled seeing the newsletter (69%) was not appreciably larger than for Indiana where it had been distributed to teachers for one year (64%).

Ratings of the effectiveness of the regional IMC. The response to each of the questions relating to the seven different sources of information about the IMC had no relationship to ratings of IMC effectiveness (Question 15).

Table 20. Awareness and rating of the IMC newsletter and other IMC printed materials, giving percentages in each state (frequencies in parentheses). (Differences between states are nonsignificant.)

| | Indiana | Ohio | Michigan | Weighted % for total sample |
|---|---|---|---|---|
| Don't recall seeing any | 31% (26) | 49% (30) | 36% (27) | 40% |
| Have seen but haven't read it | 7% ( 6) | 3% ( 2) | 9% ( 7) | 6% |
| Found it very informative | 22% (19) | 12% ( 7) | 20% (15) | 17% |
| Found it moderately informative | 29% (25) | 26% (16) | 31% (23) | 29% |
| Found it a little informative | 11% ( 9) | 10% ( 6) | 4% ( 3) | 8% |

Table 21. Ratings of IMC effectiveness, giving percentage of response in each category for each state. (Differences between states in each category are nonsignificant.) (Frequencies in parentheses.)

| | Indiana | Ohio | Michigan | Weighted % for total sample |
|---|---|---|---|---|
| Haven't heard of IMC | 23% (20) | 26% (16) | 20% (15) | 23% |
| Overall negative effect | 0 | 0 | 4% ( 3) | 2% |
| Little or no positive effect | 17% (14) | 7% | 12% ( 9) | 10% |
| Some positive effect | 11% ( 9) | 5% ( 3) | 18% (13) | 12% |
| Great deal of positive effect | 1% ( 1) | 5% ( 3) | 1% ( 1) | 3% |
| Can't tell what effect it had | 48% (41) | 57% (35) | 45% (33) | 50% |

There is no evidence to show that a teacher's awareness of having seen or heard of one of the seven sources of information resulted differentially in amount of perceived effectiveness, nor were ratings of IMC effectiveness different between the states, as shown in Table 21.

There was, however, a relationship between amount of contact with the consultant (Question 16) and ratings of effectiveness, as shown in Table 22.

Table 22. Rating of the effect of the regional IMC and amount of contact with the consultant, giving weighted percentages of the total sample (N=220). (**)

| | Had no contact with consultant and would not know how to contact | Know how to contact the consultant but have not had contact | One Contact | More than one contact | Total |
|---|---|---|---|---|---|
| Have not heard of the regional IMC | 22% | 1% | 0% | 0% | 23% |
| Overall negative effect | 2% | 0% | 0% | 0% | 2% |
| Little or no positive effect | 7% | 2% | 1% | 0% | 10% |
| Some positive effect | 5% | 2% | 3% | 2% | 12% |
| A great deal of positive effect | 0% | 1% | 1% | 1% | 3% |
| Can't tell how much effect its had | 31% | 14% | 4% | 1% | 50% |
| Total | 67% | 20% | 10% | 3% | 100% |

The majority of respondents who rated the IMC as having "little or no positive effect" had also indicated that they did now know much about the IMC in

response to Question 14. Respondents tended to make a rating of greater effectiveness of the IMC when they also indicated a greater knowledge of the IMC in general, or, as shown in Table 22, contact with an IMC consultant.

Approximately three-quarters of the respondents did not attempt to rate the effectiveness of the Center. This group included about one third of the respondents who had contacted a consultant. Of interest is the fact that three respondents who indicated that the IMC had "an overall negative effect" as well as 22 of the 27 respondents who indicated that the IMC had "little or no positive effect" also indicated that they had had no contact with, and would not know how to contact, the IMC consultant. There is, of course, no indication that contact with the consultant affected the attitude of respondents toward the IMC in an unfavorable direction.

Because of the interdependence of responses to the questions of major interest which have been presented in this section, no inferences should be made concerning the consistency shown across questions. For example, for eight of nine questions (Questions 14 and 16 through 23) the Ohio group reported less awareness than the Michigan group. At the same time, Michigan respondents also showed less awareness of IMC services than Indiana respondents in seven out of nine questions.

One would expect that a given respondent who had heard of the IMC would tend to be aware of one or more of its services. The comparison shown by Table 15 indicates this tendency. Another estimate of interdependence of responses to different questions, computed by correlating all possible pairs of Questions 19, 20, 21 and 22, which have a similar format, showed that positive relationships for pairs of questions were found ranging from .28 to .47.[1]

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[1]Phi coefficient

Knowledge of types of instructional materials for handicapped children. Questions 24 through 35 asked if the respondent had heard of, examined, or used specific instructional materials, described in general terms and without use of manufacturers' names (See Table 23). Of the twelve different materials listed, film loops and single concept films appeared to be least familiar to respondents. Language development kits, programmed reading services, and tactile materials for teaching mathematical concepts appeared to be the most familiar materials, and were the only materials where the number of teachers who used the material equalled or surpassed the number who had merely heard of them. Materials which were most often only heard of tended to be among the materials least often reported as used. The distribution of response in the three categories is shown in Table 23.

Table 23. Descriptions of instructional materials for handicapped or slow learners, giving the weighted percentage of respondents reporting that they had heard of, had examined, or had used the materials (N = 222). (Percentages of response to the first category are in rank order.)

| | Have heard of the item | Have examined item | Have used item | Have not heard of item |
|---|---|---|---|---|
| Tape recordings | 44% | 6% | 14% | 26% |
| Captioned films | 43% | 8% | 16% | 33% |
| Film loops | 35% | 9% | 23% | 33% |
| Single-concept films | 40% | 8% | 4% | 48% |
| Tachistoscopes | 38% | 9% | 6% | 47% |
| Sets of diagnostic teaching materials | 32% | 8% | 27% | 34% |
| Filmstrips | 35% | 17% | 11% | 37% |
| Records for activities | 30% | 16% | 31% | 23% |
| Language development kits | 28% | 13% | 29% | 30% |
| Kits teaching discrimination of form and size | 33% | 5% | 30% | 32% |
| Programmed reading series | 32% | 13% | 24% | 31% |
| Tactile materials for teaching mathematical concepts | 29% | 16% | 27% | 28% |

A total score was computed for each respondent by assigning him one point for having heard of an item, two points for having examined an item, and three points for having used an item, making the highest possible score 36. Of 23 questions with which they were analyzed, scores related only to two variables, the amount of training in special education and the teacher's specialty area. The relationship to amount of teacher preparation received is described in Table 22. The knowledge of materials was greater where the respondent had had more formal training in the field of special education, as one would expect. It is surprising, however, that so many materials were unfamiliar to teachers, as was indicated by the average individual knowledge scores.

Table 24. Knowledge of materials subtest: maximum scores and average scores of respondents grouped according to amount of special education training received. (Frequencies in parentheses.)

| | Highest score obtained | Average individual score |
|---|---|---|
| Certified in special education with extra coursework (117) | 36 | 16.9 |
| Certified in special education (61) | 33 | 14.2 |
| Working toward certification (25) | 29 | 15.5 |
| Not working toward certification, but have taken one or more courses in special education (8) | 20 | 7.4 |
| No special education training (7) | 18 | 5.9 |

Knowledge of materials and specialty area. Six of the twelve materials described were responded to differentially by specialty area groups. Teachers of the deaf more often reported having used captioned films, film loops, single concept films, and filmstrips.

Teachers of the speech handicapped less often reported using filmstrips, programmed reading series, and tactile materials for mathematical concepts.

Teachers of the trainable mentally retarded more often reported having used film loops.

The scale of attitude toward instructional materials. Because the sampling procedure was carried out in a way which would produce a sample representative of teachers in all sections of each state, it was anticipated that in some areas, teachers' awareness of consultant services might be minimal or nonexistant. For this reason it was not feasible to measure attitude toward the consultant or consultant services within the limits of the initial survey. This fact was confirmed by results of the questionnaire--67% of the respondents indicated that they had had no contact with a consultant, and an additional 20% indicated that they knew how to contact the consultant but had had no contact with the consultant up to that time. More time was needed to develop opinions of or attitudes toward the consultant's services.

It was decided to approach the measurement of attitude from a different standpoint, that of attitude toward teacher-made materials versus ready-made materials (commercially-marketed materials). The choice of this issue was the result of pilot work with a group of teachers and educators attending a graduate class in learning theory in Grand Rapids, Michigan, in the spring of 1968.

This group was given several questions designed to evoke underlying attitudes or values about instructional materials and their use and asked to write statements independently which were used as a pool of statements from which to construct an attitude scale. It was found that teacher-made

versus ready-made materials was the one subject which elicited statements reflecting genuine attitudinal quality.

In order to measure attitude, it is desirable to identify an attitudinal object about which a sufficient number of statements with clearly different content can be written, and to which individuals can react with varying degrees of agreement or disagreement. The issue of the two types of materials was chosen, not only because it seemed to create strong expressions of belief from the group studied, but because it is relevant to the dissemination of information about materials of all kinds.

Of course, the fully informed and experienced teacher has an unbiased view of both teacher-made and commercially-made materials, appreciating the merits of both kinds. But it is also true that there are many teachers who feel distrust or dislike of one kind or another. Such feelings were explicitly expressed by many in the pilot group. Twelve of the statements written by the group were included as written in the 14-item scale of attitude. (Two additional items were written by Center personnel.) It was interesting to find that respondents in the three-state sample often volunteered explanatory statements of their own concerning the type of materials they preferred. Their comments, presented in Appendix B, sometimes tended to be more extreme in tone than the statements in the attitude scale itself.

Eight items yielded a significant difference between the proportions of combined agree-and strongly agree scores and combined disagree-strongly disagree scores.

The items with which the majority of respondents disagreed were the following:

41. The teachers who take the time to make their own materials are the ones who are most interested in the progress of their students.
32% Agree 47% Disagree 21% Uncertain

43. Most of the products on the educational market are either fads or gimmicks.
8% Agree 80% Disagree 12% Uncertain

44. Teacher-made materials do the best job of challenging the student.
12% Agree 52% Disagree 36% Uncertain

45. Better teacher training will hopefully bring about a decrease in the proportion of materials teachers make for classroom use.
13% Agree 66% Disagree 21% Uncertain

47. Commercially available materials are more apt to be built around sound learning theories than are teacher-made materials.
21% Agree 53% Disagree 26% Uncertain

48. If a teacher usually prefers the teacher-made material, it's probably because she doesn't know how to use the types of commercially made materials available.
13% Agree 70% Disagree 17% Uncertain

49. The poor or lazy teacher is the one who most often prefers to use commercially made materials.
9% Agree 80% Disagree 11% Uncertain

The items with which the majority of respondents agreed were the following:

42. Commercially made materials don't reflect the child's cultural environment as well as teacher-made materials do.
46% Agree 26% Disagree 28% Uncertain

46. Teacher time is best used to adapt commercially marketed products, not to reproduce them or make them from scratch.
48% Agree 32% Disagree 20% Uncertain

The comparison of attitude scale responses to Question 12, "What proportion of materials which you used in the past year have you made yourself or helped to make?" showed that those who made half, more than half, all or almost all of

their materials agree significantly more often with the following items:

39. All costs considered, commercially made materials are too expensive in comparison to teacher-made materials. (*)

44. Teacher-made materials do the best job of challenging the student. (*)

This group tended to disagree with the following items:

45. Better teacher training will hopefully bring about a decrease in the proportion of materials teachers make for classroom use. (**)

46. Teacher time is best used to adapt commercially marketed products, not to reproduce them or make them from scratch. (*)

The total sample more often agreed with Question 46, while the group who made most of the materials they used took the opposite view. Questions 39 and 44 set this group apart also, and provided two clues to their apparent preference for self-made materials.

A reliability study showed that the scale has good reliability for a test of its length,[1] meaning that favorableness of response of an individual to each of the 14 items tended to be consistent with the favorableness of his attitude toward teacher-made materials as reflected by his total score.

It is suggested that by drawing on a new item pool in order to add to test length, elimination of items which prove not to contribute to test reliability, and one or more reliability studies, such a scale would be of use to consultants or demonstrators who wish to know the range of attitude in small groups. Discussion of scores and their interpretation with the group would alleviate the tendency of some individuals to reject the information provided by the demonstrator because of strong underlying beliefs about materials.

A second use would be possible if greater reliability is achieved. The teacher who tends to favor teacher-made materials to the exclusion of commer-

[1] Hoyt reliability coefficient, .79; range of scores, 17 to 62; mean, 41.6; standard deviation, 7.5.

cially made materials or vice versa can be identified by an attitude scale. A new awareness as the result of IMC consultant contact could bring about a change in the measured attitude of such a teacher. A revision of the attitude scale could be used to measure individual attitude change.

Third, itemization of statements of strong belief concerning instructional materials serves to identify and define some of the difficulties of the teacher who struggles to keep abreast of changes in technology of educational materials but finds that time and funds are limited. Content of scale items and associated response to each item should be of interest to persons who are involved in the manufacture and/or distribution of materials.

Approximately one-third of the respondents commented on items in the attitude scale. Many of these comments, selected to eliminate repition of theme, are included in Appendix B.

## SUMMARY AND DISCUSSION OF RESULTS

The awareness of the Regional IMC was widespread. Approximately four-fifths of the respondents reported that they had heard of the IMC. The proportion of respondents who had heard of the IMC was not significantly higher in Michigan than in Ohio, although a consultant had been available to the teachers of handicapped children in Michigan for 23 months, while the Ohio consultant had been attached to the IMC staff for 7 months.

A greater awareness of a specific IMC activity, local materials displays, was found among Michigan respondents when compared with Ohio respondents. This finding may be attributable to the circulation of the comprehensive displays of materials prepared by the consultant and sent to cities in each intermediate school district of lower Michigan. When other IMC activities were looked at, differences which occurred between Ohio and Michigan proved to be negligible.

A finding of interest was that the amount of consultant contact was important to the perception of IMC effectiveness. Respondents who had contacted the consultant in their state were more favorable in their ratings of the effectiveness of the IMC, and this was generally true in each state. No other IMC service bore a relationship to perceived effectiveness.

For the question concerning the amount of contact with the consultant, response was very similar from one state to another. The longer period of Michigan consultant activity did not result in a greater percentage of teachers in the state who contacted the consultant. Many other factors such as the number of teachers in the state, the distance the consultant must travel to schools in the state, and the amount of released time teachers have, undoubtedly contribute to the amount of teacher-consultant contact which takes place, but were not controlled in this survey.

The finding that approximately 57% of the group surveyed had some awareness of the IMC but did not know how to contact the consultant suggested that the consultant was not one of the principal features that teachers associated with the IMC.

The results of the questions about respondents' knowledge of materials indicated that relatively few teachers had examined or used most of the materials described. In general, from one-fourth to one-half of the sample had not heard of, examined, or used each of the materials described in terms of their use with handicapped children.

The role of the consultant in informing teachers about the materials which were described in Questions 24 through 35 was not investigated. According to the survey results, as of the summer of 1968, the teachers' formal preparation in college coursework had more relationship to knowledge of materials than did consultant contact. The results suggest that most teachers are not truly well informed about some of the newer kinds of instructional materials, while IMC consultants, who are equipped to supply them with the information they need, are too few in number to reach a significant number of teachers. The situation was sketched by one respondent, who commented, "I met the consultant only through a summer school course. It would be beneficial if all teachers of the handicapped were provided time during school hours to meet as perhaps a county unit with the consultant - to really get to know about the IMC and therefore better utilize its services... If a school-hours meeting were held, the IMC would surely be utilized and appreciated."

When teachers' attitudes toward commercially produced and teacher-made materials were examined, it was found that an isolable attitude does exist,

and in general the respondents tended to be slightly more favorable toward teacher-made materials than unfavorable. Perhaps the attitude scale as administered as part of this survey was more successful in evoking attitudinal commentary than in telling us to what degree teacher-made materials were favored. Strong beliefs concerning types of materials are apparently prevalent among the population of teachers surveyed.

In conclusion, teachers, regardless of the part they have in the actual purchasing of materials, their specialty area, the age of the children they teach or the state in which they reside reveal a great deal of concern about the materials they use with the handicapped child. At the same time there is a need to provide information directly to the teacher about the materials that are best for each situation. The circulation of local displays of materials appeared to have achieved what the consultant on a person-to-person level had not, a significantly greater proportion of teachers who were affected directly by IMC activity.

## APPENDIX A

To compute the 90% confidence interval for the weighted percentage estimates in the right hand column of tables 9 to 13 and 15 through 19, substitute for p in the following expression the percentage for Indiana in the row of the table in which you are interested:

$$.02\left(\sqrt{\frac{p(1-p)}{85}}\ .93\right)$$

Substitute the Ohio percentage in the same row for p in the following expression:

$$.15\left(\sqrt{\frac{p(1-p)}{60}}\ .98\right)$$

Substitute the Michigan percentage in the same row for p in the following expression:

$$.23\left(\sqrt{\frac{p(1-p)}{74}}\ .98\right)$$

Carry out the three computations and add the results. Multiply by 1.65 and add and subtract the product to the weighted percentage given.

## APPENDIX B

## SELECTED COMMENTS BY RESPONDENTS REGARDING COMMERCIALLY PRODUCED AND TEACHER-MADE MATERIALS

The materials available from commercial companies have greatly improved in my field (Speech therapy).

A creative teacher is always finding new ways to stimulate her pupils and making some of her own materials.

Teacher-made materials often do not meet the needs of or serve to motivate a group, particularly a large group.

Mathematics books don't offer enough variety of the same type of material that the child will be able to succeed in.

I feel every special classroom should have an overhead projector. The rest of the purchased materials they can keep!

I make many of my own materials because I can more easily direct them to the problems of the children in my class. Ordered materials arrive too late for effective utilization.

Materials available commercially for the speech therapist have been very poor.

Best teaching can be achieved through use of both commercial and self-made materials.

The limited budget on which we must operate dictates teacher-made materials if we have the child's progress at heart.

Commercially produced materials are quite expensive as another child may not be able to use that specific material. The child in an underprivileged home needs to feel that he has something which is his very own.

Teachers are forced to use commercially made materials because of time involved to make materials.

I have a Master's in the field of Mental Retardation and my advisor was very keen on teacher-made materials -- so I suppose that's why I find it works better for me.

I prefer to make my own materials because some material on a page or in a book may be just what I want to use but the rest is not applicable to my situation.

In the speech therapy field the materials lack imagination and variety and are difficult to adapt to the public school therapy situation.

The price paid for many commercial items is not worth the money because they are not practical.

Teacher-made materials are simpler and provide for a more directed program.

I feel the prices for many products are too high considering the durability of the products.

I can put together some materials in an hour or two to use the next day rather than waiting for them to be ordered.

Concerning the use of commercially produced materials, I find generally they are not applicable to my classes' age and ability.

It takes too long to "plough" through all of the catalogs.

I find few published materials that are applicable to a small urban area.

I have had much success in writing my own units of work that bring into focus the children's own environment and interests.

A teacher may prefer commercially produced materials because she does not feel adequately prepared to make classroom materials.

Materials made by the teacher often fit the pupil and situation better than commercially made products.

Materials made by the teacher may not be as good-looking.

Too many commercial materials are expensive -- flashy sets to use up NDEA, etc., funds.

The most effective aspects of my teaching have involved adaptation of commercial materials, altering the intended directions as well as building upon the principles in commercial materials and then presenting it in a new form. A healthy flexibility toward materials means commercial and teacher-made materials in creative combinations.

Commercial materials are not well developed.

Expense and easy loss or damage make teachers and children afraid to use commercial materials.

Commercial materials purvey many poor percepts and concepts.

Making the materials is a most valuable learning experience for both teachers and children.

The planning, time, and disorder involved too often keeps teacher-made materials from being made and used.

Your service should include much help toward having teachers make their own materials.

Most persons who have worked with these commercial materials have done it in isolation too removed from the children.

Teachers and children need much help in using AV aids -- for too many teachers they are time fillers.

Not all teachers are talented in making instructional materials -- many want a more professional looking material.

Teacher-made materials not only challenge the students but they strengthen the one-to-one relationship in providing the personal attention for the slow child. A resourceful teacher can not wait for weeks to receive an order for something she needs now, or run the risk of back orders.

Often I realize while in the middle of a unit my class needs more aids -- if they are not on hand, it is to my advantage to make them -- otherwise I'd have to order and wait several weeks.

I feel we use many commercially made products because we are trying to put each child in the same mold, or are saying they all must learn the same way.

The commercially made materials are too babyish for my age group.

The children helped with making materials -- the more they are involved, the more interested they are.

I think it worthwhile for the children to see that not everything must be purchased -- many of my children come from culturally deprived and very low income homes.

APPENDIX C

INSTRUCTIONS All questions are to be answered on the answer sheet using a No. 2 pencil only. Each question requires just one mark with the exception of Question 2, which may receive as many marks as are appropriate in your case. If none of the answer categories covers your response, comment on the attached sheet, using the number of the question for identification.

1. AT THE PRESENT TIME IN WHICH ONE OF THESE AREAS DO YOU TEACH THE MOST?
   A. Trainable Mentally Retarded
   B. Educable Mentally Retarded
   C. Both TMR and EMR
   D. Slow Learner
   E. Physically Handicapped
   F. Speech
   G. Deaf
   H. Blind
   I. Learning Disability
   J. Emotionally Disturbed
   K. Remedial Reading
   L. Vocational Rehabilitation
   M. Multiple Handicapped
   N. Other

2. WHAT ARE THE AGES OF THE CHILDREN YOU WORK WITH AT THE PRESENT TIME?
   (Indicate all ages by filling in all appropriate spaces on the answer sheet--the numbers given refer to years of age.)

3. HOW MANY YEARS IN FULL-TIME TEACHING?
   (Indicate total years by marking through the one appropriate number on the answer sheet--the numbers refer to total years.)

4. HOW MANY YEARS TEACHING THE HANDICAPPED CHILD?
   (Indicate total years by marking through the one appropriate number on the answer sheet--the numbers refer to total years.)

5. HOW MUCH TRAINING IN SPECIAL EDUCATION DO YOU HAVE?
   A. Certified in Special Education, with extra coursework beyond certification
   B. Certified in Special Education
   C. Working toward certification
   D. Not working toward certification, but have taken one or more courses in Special Education
   E. No Special Education training

6 through 11: To answer each of the following questions, use this code:
T--If the statement is true for you
F--If the statement is false for you
?--If the statement is meither true nor false for you

6. There is a budgeted amount set aside for me to order or purchase materials of a supplementary nature.

7. There is a budgeted amount set aside for me to order or purchase materials of other than a supplementary nature.

8. I regularly purchase or order supplementary materials with the amount set aside.

9. I regularly purchase or order materials that are other than supplementary with the amount set aside for this purpose.

10. My purchases or orders are usually done as a member of a department or committee, rather than as an individual.

11. The purchasing or ordering of materials with which I have been involved in the past year was, for the most part, directly related to an established curriculum development program.

12. WHAT PROPORTION OF MATERIALS WHICH YOU USED IN THE PAST YEAR HAVE YOU MADE YOURSELF OR HELPED TO MAKE?

A. None
B. A very small proportion
C. Some, but less than half
D. About half
E. More than half
F. Nearly all or all

13. WHAT PROPORTION OF MATERIALS WHICH YOU USED IN THE PAST YEAR ARE MATERIALS WHICH YOU HAD A PART IN SELECTING, ORDERING OR PURCHASING?

A. None
B. A very small proportion
C. Some, but less than half
D. About half
E. More than half
F. Nearly all or all

14. HOW WELL ACQUAINTED DO YOU FEEL YOURSELF TO BE WITH THE PROGRAMS AND FACILITIES OF YOUR USOE REGIONAL INSTRUCTIONAL MATERIALS CENTER FOR HANDICAPPED CHILDREN AND YOUTH?

A. Have not heard about it
B. Have heard about it, but do not know much about it
C. Do know something about its programs and/or facilities
D. Do know about all or almost all of its programs and facilities

15. WHAT EFFECT DO YOU FEEL THE REGIONAL INSTRUCTIONAL MATERIALS CENTER HAS HAD ON EDUCATION OF THE HANDICAPPED OR SLOW LEARNER IN YOUR COUNTY?

A. Haven't heard of it
B. Overall negative effect
C. Little or no positive effect
D. Some positive effect
E. A great deal of positive effect
F. Can't tell how much effect it's had

16. HOW MANY CONTACTS (CORRESPONDED WITH, HEARD SPEAK, OR TALKED WITH) HAVE YOU HAD WITH THE FIELD CONSULTANT OF THE REGIONAL IMC IN YOUR STATE?

A. Have had no contact with, and would not know how to contact, the consultant
B. Know how to contact the consultant, but have had no contact as yet
C. Have contacted the consultant once
D. Have contacted the consultant more than once

17 through 23: Make a rating of the value of each of the following sources of information about materials provided by the USOE Regional Instructional Materials Center for Handicapped Children and Youth:

17. INSTRUCTIONAL MATERIALS LIBRARY:

A. Have not visited or heard of it
B. Heard of it, but haven't visited it
C. Visitedit and found it useful
D. Visited it and found it not useful

18. REGIONAL IMC FIELD CONSULTANT:
   A. Have had no contact with him/her
   B. Consultant was very helpful or informative
   C. Consultant was somewhat helpful or informative
   D. Consultant was a little helpful or informative
   E. Consultant was not helpful or informative

19. DISPLAYS OF MATERIALS PLACED IN YOUR LOCALITY BY A REPRESENTATIVE OF THE REGIONAL INSTRUCTIONAL MATERIALS CENTER (IMC)
   A. I have not been aware of any in the past year
   B. I have been aware of one, but have not attended
   C. It was very informative
   D. Moderately informative
   E. A little informative

20. IN-SERVICE TRAINING (WORKSHOPS, DEMONSTRATIONS, CONFERENCES, ETC.) PROVIDED BY OR ATTENDED BY THE FIELD CONSULTANT OF THE REGIONAL IMC
   A. I have not been aware of any in the past year
   B. I have heard of one but have not attended
   C. It was very informative
   D. It was moderately informative
   E. It was a little informative

21. DISPLAY AT A CONVENTION PROVIDED BY THE FIELD CONSULTANT OF THE REGIONAL IMC
   A. I have not attended a convention for teachers in the past year
   B. I attended a convention, but do not recall an IMC display
   C. It was very informative
   D. It was moderately informative
   E. It was a little informative

22. NEWSLETTERS AND OTHER PRINTED MATERIALS PROVIDED BY THE REGIONAL IMC
   A. I do not recall seeing any
   B. I have seen some information but have not read it
   C. It was very informative
   D. It was moderately informative
   E. It was a little informative

23. QUESTION-ANSWER SERVICE FOR OBTAINING INFORMATION ABOUT MATERIALS
   A. I have not heard anything about it
   B. I have heard about it but do not know much about it
   C. I know something about its purposes
   D. I am familiar with its purposes, uses and procedures

<u>24 through 35</u>: For each of the following general descriptions of types of materials used in the teaching of the handicapped or slow learner, mark your answer sheet by using this code:

A--If you have HEARD about their uses but have not examined or used them
B--If you have EXAMINED them but have not used them
C--If you have USED them
Leave the question blank if the description is unfamiliar to you.

24. Captioned films for the handicapped or slow learner?
25. Tape recordings for the handicapped or slow learner?
26. One or more sets of diagnostic teaching materials?

27. Film loops for the handicapped or slow learner?
28. Single-concept films for the handicapped or slow learner?
29. Records for activities for the handicapped or slow learner?
30. Tachistoscopes for the handicapped or slow learner?
31. Kits for improving language development?
32. Tactile materials for teaching mathematical concepts?
33. Filmstrips for the handicapped or slow learner?
34. Kits designed to teach discrimination of form and size?
35. Programmed reading series designed for the handicapped or slow learner?

36 through 49: React to the following statements by using this code to mark your answer sheet through the same code letters:

SD--If you Strongly Disagree
D--If you Disagree
U--If you are Uncertain
A--If you Agree
SA--If you Strongly Agree

36. The competitive market in educational products insures materials that are as good or better than teacher-made materials.

37. Teacher-made materials are more likely to be classroom-tested than commercially produced instructional materials.

38. I should make more of my teaching materials than I usually do.

39. All costs considered, commercially-made materials are too expensive in comparison to teacher-made materials.

40. Teacher-made materials are apt to be lacking in durability, in contrast to the typical commercial instructional materials.

41. The teachers who take the time to make their own materials are the ones who are most interested in the progress of their students.

42. Commercially-made materials don't reflect the child's cultural environment as well as teacher-made materials do.

43. Most of the products on the educational market are either fads or gimmicks.

44. Teacher-made materials do the best job of challenging the student.

45. Better teacher training will hopefully bring about a decrease in the proportion of materials teachers make for classroom use.

46. Teacher time is best used to adapt commercially marketed products, not to reproduce them or make them from scratch.

47. Commercially available materials are more apt to be built around sound learning theories than are teacher-made materials.

48. If a teacher usually prefers the teacher-made material, it's probably because she doesn't know how to use the types of commercially made materials available.

49. The poor or lazy teacher is the one who most often prefers to use commercially made materials.

THANK YOU FOR YOUR ASSISTANCE

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## COMMENTS

Use this sheet if you wish to add to or comment on any of the questions we have asked. Please identify each comment with the number of the question to which it refers.